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The COVID-19 Pandemic – Selected Difficulties in Child Functioning

Pandemia COVID-19 – wybrane trudności w funkcjonowaniu dzieci

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ABSTRACT

This article aims to discuss the impact of the COVID-19 pandemic on the emergence of difficulties in children's functioning, while also delineating the prospective repercussions stemming from the deprivation of their needs. We need to analyze this experience very carefully, especially in the case of young children. Adverse events, according to the assumptions of bio-ecological and life-span theories, make it possible to understand the interactions of biology and environment on human functioning, behaviour, and development, particularly in early life stages. A literature review was conducted using the following databases: PsycArticles, PubMed and Google Scholar. Keywords used in the search for materials were: "pandemic", "COVID-19", "children", "development", "risks", and "functioning". A review of the research carried out showed the occurrence of frustration, concerns about the daily functioning of the youngest children. The pandemic, as can be seen, contributed to the disruption of daily routines, support structures and the normal functioning of children's family and non-family environments. However, these were not changes whose impact ended with the announcement of the end of the pandemic. The negative impacts of the pandemic on children's somatic health (e.g. difficulties with sleep, physical activity) and psychological health (problems with self-regulation, anxiety, fear) are perceptible. Within the framework of life course theory, the COVID-19 pandemic emerges as a social and historical event with a destructive impact, manifesting across various areas of life and the activities of the youngest. The effects of a pandemic may, in the long term, hinder the functioning and proper development of children in the future.

Keywords: pandemic; children; difficulties; development

INTRODUCTION

The pandemic brought about drastic changes in children's lifestyles, including reduced physical activity, limited social contact, and increased emotional, and somatic difficulties (Bauer, 2020). In addition, it has been noted that domestic and family problems create chain reactions that trigger the Family Stress Model (Center for Translational Neuroscience, 2020). The life course concept Life Course Theory (Elder et al., 2003) – in terms of this theory, the life course is "the sequence of socially defined events and roles that an individual experiences and plays over time" (Mitchell, 2003, p. 1051). According to the life course concept, a person's life progresses through socially defined life paths and there are transitions and turning points. At different stages of life, man adopts to the conditions in which he has to live. The pandemic situation forced children and adolescents to change their previous way of functioning, to reorganise their previous activities.

For instance, the emotional distress experienced by parents and caregivers often spills over into adverse emotional, social and somatic functioning of children (Goodman et al., 2011). Instead, anxiety was emphasized, as childhood in particular is a time of danger due to the developing and highly vulnerable brain (Shonkoff et al., 2012). Development from the prenatal period through childhood to the later years of life is stimulated by the interaction occurring between biology (genetic predisposition) and ecology (physical and social environment) (Bronfenbrenner, 1979). The ecological-biological model of development helps to explain the relationship that occurs between challenging events in childhood and their subsequent consequences on development later in life (Center on the Developing Child at Harvard University, 2011).

Stress in young children is sometimes seen as a risk factor for health-risk behaviour and a catalyst for physiological reactions that may become the basis for chronic stress-related physiological reactions later in life. Chronic stress can cause difficulties in memory functioning or mood. High cortisol levels and prolonged stress also cause inhibition of neurogenesis (Shonkoff et al., 2012). Researchers have found a strong link between difficult childhood experiences and cognitive, social-emotional problems in later stages of development (National Scientific Council on the Developing Child, 2014). Difficult pandemic events, however, have apparently contributed to preparing for future serious disease threats and preventing the spread through the use of face masks and disinfectants, as a desirable concern for the health of others. This is a pro-health and pro-social attitude at the same time, which can be part of important childhood education and raising one's health awareness.

The COVID-19 pandemic undoubtedly caused significant negative changes in the lives of children of all ages, thus, affecting their health, level of functioning and psychological well-being (Araújo et al., 2021). The youngest experienced

increased symptoms of anxiety, behavioural issues, and somatic problems amid the pandemic (Brooks et al., 2020). Their social development was disrupted by restricted contact with peers, the closure of kindergartens, and schools, as well as introduced isolation (Kleszczewska et al., 2024; Loades et al., 2020). The COVID-19 pandemic caused profound changes in the health, development and well-being of children.

This article aims to discuss the fundamental problems in the functioning of children during the pandemic. Difficulties in selected spheres of development will also be outlined and impediments to the future development of children will be shown.

Selected somatic problems of children in a COVID-19 pandemic situation and developed beneficial ways to support somatic health

During a pandemic, various measures are taken to limit or prevent the spread of infection. Amidst the current pandemic situation, regulations were related to the need to stay at home, and restrictions on physical activity were in place. The restrictions put in place contributed to changing children's lifestyles. A noticeable problem in the early days of the pandemic was the disruption of the bedtime rhythm of the youngest. For infants and younger children, the level of stress experienced by the caregiver affected the quality of children's sleep (Markovic et al., 2021).

An Israeli study (20–30 April 2020) of 264 mothers of children aged 6 to 72 months found that 35% of the children had a sleep problem, while no difficulties in sleep-wake rhythm were observed for 40% (Zreik et al., 2021). Carroll and colleagues (2020) conducted a study on 351 parents of Canadian children aged 18 months to 5 years. The results showed that 17% of the children had a disruption in their sleep and wakefulness rhythms, while no changes in diurnal functioning were perceived for 68%. A study conducted in China by Liu and colleagues (2021) on a sample of 1,619 caregivers assessing the sleep of children aged 4–6 years showed delays in sleep and wakefulness (17–19 February 2020). Sleep decreased by seven minutes during weekends and increased by ten minutes during weekdays. Polish research conducted on a group of 294 parents of children in grades 1–8 of primary school showed a significant decrease in the percentage of children's sleep assessed as very good (61.9% and 39.8%) and an increase in the percentage of children's sleep assessed as poor (0.3% and 7.5%) in the assessment before and after the pandemic (Krupa-Kotara et al., 2023).

In addition, there were problems related to falling asleep: sleep anxiety, nocturnal awakening, and difficulty breathing during sleep. A similar study was conducted in Italy by Di Giorgio and colleagues (2021), it also showed a delay in sleep-wake rhythm, the study was conducted on 245 mothers of children aged 2–5 years. A Polish study by Łuszczki and colleagues (2021) on a group

of 1,016 children aged 6 to 15 years before and during the pandemic, showed a decrease in sleep hours during the pandemic from 8.83 to 8.55 hours and at weekends from 10.11 to 9.52 hours. Stressful events, isolation, disruption of daily activities, increasing levels of anxiety, less availability of daylight and reduced physical activity can cause sleep disturbances in children of all ages. A large proportion of people, including children will obviously develop resilience (Dymecka, 2021).

In preschoolers, proper sleep has a positive impact on cognitive development, behavioural development, and emotional regulation (Staton et al., 2020). In addition, a daytime nap in children aged 3–5 years has a beneficial effect on learning and consolidation of memory traces. Maintaining regular sleep is important for children's daily functioning and normal development (Limongi et al., 2023). Disruption of the diurnal rhythm can have serious consequences on physiological (metabolism, immunity) and cognitive (memory, attention, learning) processes.

Recent literature has addressed the importance of physical activity and its role in children's learning. During the pre-school and school years, most physical activity is organised in educational settings. Children should complete moderate physical activity for at least 60 minutes a day. At least three times a week they should perform vigorous exercise to strengthen the muscular and skeletal systems. Lack of or limited physical activity can be a detriment to the normal development of children, because of the impairment of motor skills and an increased risk of diseases of civilisation, e.g. diabetes, obesity (Andrieieva, Hakman, 2018). Movement during childhood and school stimulates motor and physical development and influences social and psychological functioning. Educational activities combined with learning activities are extremely beneficial for children's learning.

Reduced physical activity as indicated by research has contributed to increased rates of obesity in children (Workman, 2020). A study from a clinic in Korea (Kim et al., 2021) that used weight measurement reported increased rates of obesity after the COVID-19 pandemic in children. Androutsos and colleagues (2021) conducted a study in Greece with parents of children aged 2–18 years, which revealed weight gain in 35% of the children studied. Another Italian study by Pujia and colleagues (2021) on 439 parents of children aged 5–14 years, found an increase in weight in 59.7% of children. A German study saw an increase in the incidence of type one diabetes in children (Kamrath et al., 2022), as did Finnish results (Salmi et al., 2022).

A Polish study led by Łuszczki and colleagues (2021) on a group of 1,016 children aged 6 to 15 years before and during the pandemic, found less physical activity among children during the pandemic. Similar conclusions regarding the reduced activity of children of a similar age (1–8 grades of primary school) are also presented by other Polish studies involving 294 parents (Krupa-Kotara et

al., 2023). Reasons for the reduction in children's physical activity also include introduced time and space restrictions, and lack of social stimuli (Schmidt et al., 2019). Introduced remote education and increased time spent in front of computer screens, smartphones further contributed to the decrease in physical activity levels (Ulrich et al., 1991).

Activities related to the COVID-19 pandemic restrictions changed the way families interacted socially, and functioned, limited access to health services, and children's physical play, contributing to increased metabolic functioning abnormalities (Renz et al., 2017). Reduced physical activity has also contributed to increased engagement with the internet and the media (see Table 1).

The resulting situation has increased anxiety and exacerbated behavioural problems, and difficulties in mental functioning for many children (Brooks et al., 2020). Stress recovery theory (Ulrich et al., 1991) indicates that exposure to natural surroundings accelerates recovery from stressful stimuli. Limited access to nature has resulted in difficulties for children to return to well-being. Research by Bignardi and colleagues (2021), and the National Health Service (2020) found that confinement to the home, changes in daily routine, and reduced contact with extended family and peers contributed to children's mental health problems. Habits from the pandemic period can of course be changed, and neglect and omission can be skilfully worked through over time.

Selected emotional and behavioural problems of children in a pandemic situation

Children's emotional difficulties are often related to emotional and psychological conditions (e.g. depression, and anxiety), while behavioural ones involve aggression, and hostility (Zilanawala et al., 2019). Research conducted on the impact of COVID-19 quarantine in Spain and Italy (Orgilés et al., 2020) found that 85.7% of parents reported negative changes in their children's emotional and behavioural state. During the first phase of the pandemic, children had problems concentrating, appeared irritable, bored, anxious and felt lonely. During the first month of restriction, parents and carers of primary school children reported an increase in emotional (especially anxiety, and restlessness) and behavioural difficulties (Pearcey et al., 2020).

Jiao and colleagues (2020), in their study, saw symptoms of restraint in children aged 3–6 years during the initial pandemic period, while in the 6–18 years age group, difficulties in focusing attention and a tendency to over inquire.

Levels of fear, and anxiety were higher in children living in areas with high levels of infection. Studies conducted on Chinese children found an increase in anxiety during isolation and depression (Xie et al., 2020). Another study in the US revealed that 14% of parents perceived a deterioration in their children's mental

Table 1. Children's reactions to the pandemic situation in the first stages of its occurrence

Childhood period	Reactions of children
Early childhood	• increased anxiety • difficulties with food intake, sleep • problems with self-regulation • increased separation anxiety
Middle childhood	• self-regulation problems • fear, sadness, anxiety • regression in development • sleep disturbances • increased separation anxiety • anxiety, fear of contagion • increased irritability, crying
Late childhood	• depressive mood • isolation • loss of contact • difficulty concentrating • increased aggressive behaviour

Source: (Buechel et al., 2022; Sato et al., 2023).

health (Patrick et al., 2020). During the course of the pandemic, many parents in different countries reported increased anxiety, and depressive symptoms in their children. And at this point, unexpected positive effects of the pandemic can be pointed out. Time spent with parents, and media entertainment helped in some way to lower the anxiety of the youngest. The study also recognised a correlation: parental stress contributed to a decrease in children's well-being (Luthar et al., 2020; Mudło-Głagolska, Larionow, 2022). Young children who experienced more stressful events during the pandemic, e.g. caregivers losing their jobs, watching disturbing media coverage related to the coronavirus had more emotional and behavioural problems (Shorer, Leibovich, 2020).

Depression and anxiety are common pandemic mental health problems that can be passed from parents to their children (Chang, Fu, 2020). Previous research on the determinants of anxiety and depression has shown that they share a genetic liability (Kendler et al., 2008). Environmental mechanisms are important in intergenerational transmission (Eley et al., 2015), for example, during a pandemic, non-verbal messages are presented, and threatening information is transmitted (Aktar et al., 2017). During a pandemic situation, it was perceived that when parents revealed more negative emotions towards their children, they were more likely to experience negative psychological states (Liang et al., 2021). In the situation of neutralising the negative emotional states of the youngest, the caregivers' ability to regulate their own emotions proved to be important (Chang, Fu, 2020). Difficulties in emotion regulation contributed to increased disclosure of anxiety and depression (Yang et al., 2020).

Studies of children showed that children's well-being deteriorated during pandemic education (Całek, 2021). They experienced emotional problems. A study by Makaruk and colleagues (2020) indicates that adolescents, despite experiencing satisfaction with not going to school, experienced difficulties due to reduced contact with peers and being forced to stay at home (one third of adolescents showed deterioration in well-being).

During the COVID-19 pandemic, disturbing behavioural problems were noted in children during the initial period of the pandemic, through subsequent periods of restriction in many countries (Xie et al., 2020). External behavioural difficulties are most often revealed in acting out behaviour, hyperactivity, and aggression (Liu, 2004). During the initial period of the pandemic, children exhibited the majority of acting-out behaviours. A US study of 645 parents of children aged 2 to 7 years showed an increase in problem behaviours (Gassman-Pines et al., 2020).

Another study conducted on Italian parents of children aged 3 to 11 years revealed an increase in externalising behaviour (Giannotti et al., 2022). In addition, it was noted that parental anxiety was transferred to poorer child functioning (Giannotti et al., 2022). Stress experienced by caregivers was a strong predictor of externalising behaviour in children aged 3 to 11 years, as indicated by an Italian study (Giannotti et al., 2022). Anxiety behaviours began to increase during the pandemic. Younger children in threatening situations show a greater tendency to display externalising behaviours, which decrease with age. The reason for this type of behaviour in the youngest children is that they have less capacity in terms of psychological resources to cope with stressful events (Franks, 2011). It remains an open question to what extent it has been possible to develop models of e-therapy (and previously e-diagnosis) that can be used to cope with stressful events also in non-direct contact.

Deprivation of important needs during a pandemic and its impact on children's subsequent development

Ongoing research has shown that crisis events negatively affect children's well-being, and their functioning. Pandemics, and disasters contribute to mental health difficulties, and behavioural and psychological problems in children (Peek, 2008). Emotional disturbance, and psychological trauma can be caused by separation from loved ones, social isolation, and sudden changes in daily routine.

During the pandemic, deprivation covered many needs. One of these was safety. Children who sensed anxiety, sadness, and fear in their caregivers and in their behaviour, started to show anxiety reactions, worrying, crying and high stress levels. Sustained stress, anxiety, and worry over a long period of time adversely affect brain development, sometimes also leading to long-term, irreversible consequences for development and continued functioning (World Economic

Forum, 2020). Research on the effects of previous challenging events indicates that they cause immediate as well as long-term consequences for children, particularly when the brain is developing and there is an increased sensitivity of response to any environmental difficulties (Skonkoff et al., 2012).

In crisis situations, children may also develop feelings of helplessness, withdrawal and anxiety, which may develop into depression or post-traumatic stress disorder, as the stressor continues. Previous research suggests that children who experience difficult events may be more prone to experience trauma, and stress due to a lack of development of normal emotional responses and failure to develop effective coping techniques to deal with stress (Brock et al., 2002). The need to belong (being in a group, relationships formed, understanding) is important for children's normal psychological development and well-being. Separation from extended family members, teachers, and peers occurred during the pandemic, which may contribute to an increased risk of psychological disorders.

Psychological and social impacts of the pandemic include feelings of loneliness, frustration, sadness, and exclusion by family, friends, and acquaintances (Denis-Ramirez et al., 2017). Children undoubtedly need the presence of caregivers for proper development and daily functioning. When there is a lack of care, parental involvement or when this care is severely limited there may be a risk of externalisation and internalisation difficulties. There may also be cognitive and language deficits in the future.

Children's screen time has also increased in a pandemic situation. Research suggests that increased time spent in media, social forums and use of various mobile devices may increase the risk of developing mental health problems. According to preliminary estimates by UNESCO (2023), more than 100 million children will decline in reading proficiency as a result of the pandemic, while 23.8 million will drop out of school (UNICEF, 2021). Ongoing research has also shown that excessive use of smartphones, and the internet, can contribute to reduced social interaction, neglect of personal interests, in addition to poorer academic performance.

SUMMARY

The COVID-19 pandemic has affected children's health, development, and daily functioning. The review of conducted studies revealed the significant impact of the pandemic on various difficulties of a somatic and psychological nature experienced by children in many countries and across different ages. The COVID-19 pandemic exacerbated stress, helplessness, a tendency to worry, as well as emotional and behavioural difficulties. In a pandemic situation especially daily routines, social contacts and activities were disrupted. The effects of COVID-19 are likely to persist and are not going to disappear any time soon,

due to the global scale of this pandemic with a strong negative impact on lives. The COVID-19 pandemic is described as a "social crisis in progress" (Riehm et al., 2020). According to Prime and colleagues (2020), "the exact extent to which COVID-19 is shaping child and family functioning is largely unknown" (p. 639).

Although the World Health Organization (WHO) announced the end of the COVID-19 pandemic on May 5, 2023 it is still worth analyzing the impact of this experience. Especially analyzing the first years of the pandemic and discussing this experience for the youngest generation still seems invaluable. That is why the article describes in such detail the nature of these experiences and the already known impact. Additionally, it is assumed that the long-term effects of the disease will be felt for several years.

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ABSTRAKT

Celem artykułu jest omówienie wpływu pandemii COVID-19 na pojawienie się trudności w funkcjonowaniu dzieci oraz ukazanie możliwych przyszłych konsekwencji deprywacji ich potrzeb. Potrzebna jest bardzo dogłębna analiza tego doświadczenia, zwłaszcza w przypadku małych dzieci. Zgodnie z założeniami teorii bioekologicznych i *life-span* niekorzystne zdarzenia umożliwiają dostrzeżenie oddziaływań biologii i środowiska na funkcjonowanie, zachowanie i rozwój człowieka, zwłaszcza na początku jego życia. Przeglądu literatury przedmiotu dokonano z wykorzystaniem baz danych: PsycArticles, PubMed i Google Scholar. Poszukując materiałów, stosowano słowa kluczowe: pandemia COVID-19, dzieci, rozwój, zagrożenia, funkcjonowanie. Przeprowadzony przegląd badań ukazał wystąpienie frustracji, obaw o codzienne funkcjonowanie najmłodszych. Pandemia, jak można zauważyć, przyczyniła się do zachwiania codziennej rutyny, struktury wsparcia oraz prawidłowego działania środowiska rodzinnego i pozarodzinnego dzieci. Wpływ tych zmian nie zakończył się wraz z ustaniem pandemii. Dostrzegalne są negatywne oddziaływania pandemii na zdrowie somatyczne (np. na trudności ze snem, aktywność fizyczną) i psychiczne dzieci (problem z samoregulacją, niepokojem, lękiem). Pandemia COVID-19 zgodnie z teorią przebiegu życia jest wydarzeniem społecznym, historycznym, mającym destrukcyjny wpływ, szczególnie na różne obszary życia, aktywności najmłodszych. Skutki pandemii mogą w dłuższej perspektywie utrudniać funkcjonowanie i prawidłowy rozwój dzieci w przyszłości.

Słowa kluczowe: pandemia; dzieci; trudności; rozwój